QUALIFICATIONS VALIDATED ANNUALLY

QML-31032-4 12 February 1998 SUPERSEDING QML-31032-3 21 November 1997

QUALIFIED MANUFACTURERS LIST

OF

DEPARTMENT OF DEFENSE PERFORMANCE SPECIFICATION

MIL-PRF-31032

PRINTED CIRCUIT BOARDS / PRINTED WIRING BOARDS

GENERAL SPECIFICATION FOR

This list has been prepared for use by or for the Government in the acquisition of printed circuit boards / printed wiring boards (hereafter referred to as printed boards) covered by Department of Defense Performance Specification MIL-PRF-31032. Listing of a manufacturer is not intended and does not connote endorsement of the manufacturer by the Department of Defense. All listings herein have been qualified under the requirements as specified in the latest effective issue of MIL-PRF-31032. This list is subject to change without notice; revision or amendment of this list will be issued as necessary. The listing of a manufacturer does not in any way release the manufacturer from compliance with the individual item specification requirements.

THE ACTIVITY RESPONSIBLE FOR THIS QML IS THE DEFENSE SUPPLY CENTER COLUMBUS (DSCC-VQ), COLUMBUS, OH 43216-5000.

If a manufacturer desires to have test data considered for qualification, it must be certified and meet all qualification test requirements of MIL-PRF-31032 and the applicable associated specification.

The listing of printed board manufacturing lines in the QML applies only to printed boards produced in the plant(s) specified herein. Therefore, only those printed boards that have been manufactured and tested within the United States and its territories and as provided by international agreement(s) establishing reciprocal and equivalent quality systems and procedures, can be supplied as QML printed boards.

QML-31032 is available from the DSCC-VQ World Wide Web pages at the following addresses:

Web pages:http://www.dscc.dla.mil/V/VQndex.html

QML: http://www.dscc.dla.mil/V/VQ/VQE/commodty/pwbqml/download/adobe/qml31032.pdf

QML is a definition of a manufacturer's verified capabilities. Manufacturers may use the add-on qualification process to qualify capabilities that are not currently listed on the QML. The user is encouraged to contact the manufacturer or DSCC to make arrangements for QML availability.

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FSC 5998

<u>DISTRIBUTION STATEMENT</u>.AApproved for public release; distribution is unlimited.



LIST OF MANUFACTURERS BY ASSOCIATED SPECIFICATION

MIL-PRF-31032/1 -Printed Wiring Board, RigidMultilayered, Woven E-Glass Reinforced Thermosetting Resin Base Material, With Plated Through Holes, For Soldered Part Mounting.

AAI Corporation P.O. Box 126 Hunt Valley, MD 21030-0126

Lockheed Martin Electronics & Missiles 498 Oak Road Ocala, FL 34472-3009

Raytheon Company 350 Lowell Street Andover, MA 01810-4499

Raytheon TI Systems 12501 Research Blvd. 78759 Austin, TX 78714-9149

Teradyne Circuits Operation 4 Pittsburgh Avenue Nashua, New Hampshire 03060

MIL-PRF-31032/2 -Printed Wiring Board, Rigid, Single and Double Layer, Woven E-Glass Reinforced Thermosetting Resin Base Material, With or Without Plated Through Holes, For Soldered Part Mounting.

AAI Corporation P.O. Box 126 Hunt Valley, MD 21030-0126

Lockheed Martin Electronics & Missiles 498 Oak Road Ocala, FL 34472-3009

Raytheon Company 350 Lowell Street Andover, MA 01810-4499

Raytheon TI Systems 12501 Research Blvd. 78759 Austin, TX 78714-9149

Teradyne Circuits Operation 4 Pittsburgh Avenue Nashua, New Hampshire 03060

MIL-PRF-31032/3 -Printed Wiring Board, Flexible, Single and Double Layer, With or Without Plated Through Holes, With or Without Stiffeners, For Soldered Part Mounting.

Lockheed Martin Electronics & Missiles 498 Oak Road Ocala, FL 34472-3009

MANUFACTURER NAME & ADDRESS		PLANT LOCATION	CAGE CODE: 04939
AAI Corporation		AAI Corporation York Road & Industry Lane	CONTACT: Teresa M. Rowe PHONE #: 410-628-3704 FAX #: 410-628-3110
P.O. Box 126 Hunt Valley, MD 21030-0126		Cockeysville, MD 21030	EMAIL:rowetm@aaicorp.com
CAPABILITIES BY TECHNOLOGY / ASSOCIATED SPECIFICATION:			QUALIFICATION LETTER:
MIL-PRF-31032/1 MIL-PRF-31032/2			VQE-97-0889
Panel Size Max. Board Thickness Max/Min Hole Size Aspect Ratio Max. Number of Layers Min. Conductor Width Min. Conductor Spacing Part Mounting Base Material Finish System	18" X 24" 0.190" /0.018" 10:1 14 0.010" 0.010" SM, THM, COB GF (Epoxy resin) Fused SnPB Hot Air Solder Leveling Nickel Gold Ni Plating		VQE-98-0068
Hole Preparation Copper Plating Solder Resist	Au Plating Desmear Acid Coppe UV-Cured V Liquid Photo SMOBC	Vet Screen	

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MANUFACTURER		PLANT LOCATION	CAGE CODE: 04939
NAME & ADDRESS			
			CONTACT: Shirley Berry
Lockheed Martin Electronics & Missiles		Same	PHONE #: 352-687-5676
498 Oak Road			FAX #: 352-687-5625
Ocala, FL 34472-3009			EMAIL: shirleyberry@usa.net
CAPABILITIES BY TECHNOLOGY / ASSOCIATED SPECIFICATION:			: QUALIFICATION LETTER:
			·
MIL-PRF-31032/1			VQE-97-0933
MIL-PRF-31032/2			
Panel Size	18" X 24"		
Max. Board Thickness	0.110"		
Max/Min Hole Size	/0.010"		VQE-98-0289
Aspect Ratio	9.7:1		VQE-98-0289
Max. Number of Layers	14		VQE-98-0289
Min. Conductor Width	0.004"		VQE-98-0289
Min. Conductor Spacing	0.005"		1 42 55 5255
Part Mounting	THM, SM		
Base Material	11 1111, 0111		
Dasc Material	GF	(Epoxy resin)	
	GI	(Polyimide resin)	
	SC	(Cynate Ester)	VQE-98-0289
Finish System	Fused SnPI	` ` ` '	VQL 30 0203
I IIIISII Systeiii	Hot Air Solo		
Hole Preparation		smear/Etchback	
Copper Plating		osited Acid Copper	
Copper Flatting	песпо-чер	osited Acid Coppei	
MIL DDE 24022/2			VOE 07 4222
MIL-PRF-31032/3			VQE-97-1233
Panel Size	18" X 24"		
Max. Board Thickness	0.025"		
Max/Min Hole Size	/0.012"		
Aspect Ratio	2.1:1		
Min. Conductor Width	0.006"		
Min. Conductor Spacing	0.006"		
Part Mounting	THM	La Dalatana del 10 10 11	
Base Material		Ion-Reinforced film (3 mil)	
Finish System	Fused SnPI		
Copper Plating	Electro-dep	osited Acid Copper	

MANUFACTURER NAME & ADDRESS		PLANT	LOCATION	CAGE CODE: 05716
Raytheon Company 350 Lowell Street Andover, MA 01810-4499		Same		CONTACT: Tom Rowe PHONE #: 508-470-7641 FAX #: 508-470-5970
CAPABILITIES BY TECHNO	OLOGY / ASS	SOCIATE	D SPECIFICATION:	QUALIFICATION LETTER:
MIL-PRF-31032/1 MIL-PRF-31032/2				VQE-97-0933
WIIL-PRF-31032/2				
Base Material	GF (Epoxy	y resin)	GI (Polyimide resin)	
Panel Size	18"X 24"		18" X 24"	
Max. Board Thickness	0.092"		0.130"	
Max/Min Hole Size	/0.022"		/0.022"	
Aspect Ratio	4:1		4:1	
Max. Number of Layers	12		16	
Min. Conductor Width	0.004"		0.004"	
Min. Conductor Spacing	0.004"		0.004"	
Part Mounting	SM, THM		SM, THM	
Finish System	IR Reflow		HASL, IR Reflow	
Hole Preparation	Plasma		Plasma	
Copper Plating	Acid Copp	per	Acid Copper	
Solder Resist	N/A		Dry Film	

MANUFACTURER NAME & ADDRESS	PLANT LOCATION	CAGE CODE: 96214
Raytheon TI Systems	Same	CONTACT: Nanci Baggett PHONE #: (512) 250-6089
12501 Research Blvd. 78759		FAX #: (512) 250-7010
Austin, TX 78714-9149		EMAIL: baggett@ti.com
CAPABILITIES BY TE SPECIFICATION:	ECHNOLOGY / ASSOCIATED	QUALIFICATION LETTER:
MIL-PRF-31032/1 MIL-PRF-31032/2		VQE-97-0509 VQE-97-0718
Max. Board Thickness 0 Max/Min Hole Size /0 Aspect Ratio 9 Max. Number of Layers 2	8" X 24" .150").010" :1 0 .004"	
, ,	.004"	
Part Mounting T Base Material B	HM, SM I (Nonwoven aramid reinforced	
G	polyimide resin) F (Epoxy resin) I (Polyimide resin)	
H C N	used SnPB ot Air Solder Leveling ISP ickel old	
	lasma Desmear/Etchback	
Copper Plating A	cid Copper	

MANUFACTURER NAME & ADDRESS	PLANT LOCATION	CAGE CODE: 3T000
Teradyne Circuits Operation 4 Pittsburgh Avenue Nashua, New Hampshire 0306	Same 0	CONTACT: Lisa Greenleaf PHONE #: 603-791-3118 FAX #: 603-791-3042 EMAIL:greenleaf.lisa@tcs. teradyne.com
CAPABILITIES BY T SPECIFICATION:	ECHNOLOGY / ASSOCIATED	QUALIFICATION LETTER:
MIL-PRF-31032/1 MIL-PRF-31032/2		VQE-97-0649 VQE-97-0721
Max. Board Thickness Max/Min Hole Size Aspect Ratio Max. Number of Layers Min. Conductor Width Min. Conductor Spacing Part Mounting Base Material	4" X 36" .322" 0.016" :1 7 .004" .004" :HM, Compliant Pin, SMT GF (Epoxy resin) GI (Polyimide resin)	
Hole Preparation	lickel Gold Permanganate Desmear/Etchback	
Max. Number of Layers Min. Conductor Width Min. Conductor Spacing Part Mounting Base Material Finish System Hole Preparation	7 .004" .004" .HM, Compliant Pin, SMT GF (Epoxy resin) GI (Polyimide resin) fused SnPB lickel Gold	

ALPHABETICAL LIST OF QUALIFIED MANUFACTURERS

MANUFACTURER NAME & ADDRESS	PLANT LOCATION	OTHER INFORMATION
AAI Corporation P.O. Box 126 Hunt Valley, MD 21030-0126	AAI Corp York Road & Industry Lane Cockeysville, MD 21030	CAGE CODE: 02128 CONTACT: Teresa M. Rowe PHONE #: 410-628-3704 FAX #: 410-628-3110 EMAIL: rowetm@aaicorp.com
Lockheed Martin Electronics & Missiles 498 Oak Road Ocala, FL 34472-3009	Same	CAGE CODE: 04939 CONTACT: Shirley Berry PHONE #: 352-687-5676 FAX #: 352-687-5625 EMAIL: shirleyberry&usa.net
Raytheon Company 350 Lowell Street Andover, MA 01801-4499	Same	CAGE CODE: 05716 CONTACT: Mr. Tom Rowe PHONE #: 508-470-7641 FAX #: 508-470-5970
Raytheon TI Systems 12501 Research Blvd. 78759 Austin, TX 78714-9149	Same	CAGE CODE: 96214 CONTACT: Nanci Baggett PHONE #: (512) 250-6089 FAX #: (512) 250-7010 EMAIL: baggett@ti.com
Teradyne Circuits Operation 4 Pittsburgh Avenue Nashua, NH 03060	Same	CAGE CODE: 3T000 CONTACT: Lisa Greenleaf PHONE #: 603-791-3118 FAX #: 603-791-3042 EMAIL: greenlead.lisa@tcs. teradyne.com